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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,108	09/19/2003	Tadao Nagai	36856.1119	6132

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EXAMINER

POKER, JENNIFER A

ART UNIT	PAPER NUMBER
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2832

DATE MAILED: 03/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/665,108

Applicant(s)

NAGAI ET AL.

Examiner

Jennifer A. Poker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 09/19/03 6) ☐ Other: _____

DETAILED ACTION

General Status

1. This is a first action on the merits of application filed on September 19, 2003. Claims 1-14 are pending and are being examined.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “the bases disposed on two outermost flanges” (claims 8 and 9), “the case accommodating the core. . .” (claim 10), the epoxy resin disposed within the case (claim 11), and the “substantially cylindrical sections” (claim 12) must be shown or the features canceled from the claims. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claim 11 is objected to because of the following informalities: the term “having” in the second line of the claim should be removed. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or

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with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 12 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification. Applicant claims, "...the hole in the bobbin for holding the core includes substantially cylindrical sections following the taper sections." However, applicant does not discuss the claimed cylindrical sections in the specification and does not illustrate cylindrical sections in the drawings.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1 and 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 6,075,431 to Honma in view of U.S. Patent Number 5,138,545 to Godawski.

Regarding claims 1, 4, and 6, Honma discloses a transformer comprising:

- (1) a central core (figure 7A; abstract);
- (2) a bobbin having a hole for securing the core and further equipped with a plurality of winding chambers arranged on the bobbin; the winding chambers defined by a plurality of substantially square flanges (2a-2d) (figure 7A; abstract);
- (3) primary windings wound about the outer most chambers (figure 7A)

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(4) a secondary winding wound about the inner winding groove between the primary windings (figure 7A)

Honma discloses the claimed invention except for diodes being connected to the end of the secondary winding.

Godawski discloses a bobbin wound high voltage transformer having primary and secondary windings wherein the ends secondary windings are connected to diodes. The connection to the diodes allow for development for a high DC voltage.

One skilled in the art at the time the invention was made would have found it obvious to combine the teachings of Honma with the teachings of Godawski and incorporate a secondary (high voltage) winding and connect the ends of the secondary winding to diodes in order to develop a high DC voltage.

Regarding claim 3, Godawski further discloses the use of a U-shaped core for the purposes of insertion within the hole of the bobbin. Honma in view of Godawski, however, does not disclose the substantially square sectional configuration. It would have been an obvious matter of design choice to utilize a suitable shape for the core, such as square, since applicant has not disclosed that the substantially square shape solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with any shaped configuration, such as cylindrical.

Regarding claim 5, Honma in view Godawski disclose the claimed invention except for the specific number of flanges. It would have been an obvious matter of design choice to increase the number of flanges and winding chambers to a desired number/size, since such a modification would have involved a mere change in the size of the component. A change in size is generally recognized as being within the lever of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

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Furthermore, applicant has not disclosed that the specific number of flanges claimed (9) and the specific number of winding grooves claimed (8) solves any stated problem or is for any particular purpose.

8. Claims 2 and 11-14 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 6,075,431 to Honma in view of U.S. Patent Number 5,138,545 to Godawski as applied to claim 1 above, and further in view of U.S. Patent Number 5,524,334 to Boesel.

Regarding claims 2, 11, and 13, Honma in view of Godawski disclose the claimed invention except for the taper sections.

Boesel discloses a transformer apparatus comprising a bobbin having an aperture, which houses a transformer core member. The bobbin aperture further has tapered walls. Mechanically, the taper permits retention of core pieces by compression during subsequent manufacturing operations. (Column 2, lines 21-32). Boesel further discloses the central aperture of bobbin may be tapered inward from both ends to a common size approximately in the center of the aperture, forming an hourglass-like shape (fig. 8E; column 9, lines 45-48).

One skilled in the art at the time the invention was made would have found it obvious to combine the teachings of Honma, Godawski, and Boesel and incorporate tapered walls within the bobbin in order to retain the core.

Regarding claim 12, Godawski further discloses the use of cylindrical shaped bobbin for the purposes of retaining a cylindrical core. However, applicant has not disclosed that a cylindrical shape solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with any shaped bobbin hole.

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Regarding claim 14, Boesel further discloses the bobbin having extended tabs protruding from the bobbin flanges in order to transmit a compressive force to the core assembly.

9. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 6,075,431 to Honma in view of U.S. Patent Number 5,138,545 to Godawski as applied to claim 4 above, and further in view of U.S. Patent Number 6,587,026 to Yeh, et al.

Honma in view of Godawski disclose the claimed invention except for the use of a second base (bases disposed on two outermost flanges). Yeh, et al, discloses a transformer having partitions around the bobbin body in order to separate the primary and secondary windings. The transformer further comprises bases located at both end of the bobbin body, both including terminals (figure 1; column 1, lines 10-25).

One skilled in the art, at the time the invention was made, would have found it obvious to combine the teachings of Honma, Godawski, and Yeh include bases on each side both including terminals for the electrical connection of the winding wires.

10. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 6,075,431 to Honma in view of U.S. Patent Number 5,138,545 to Godawski as applied to claim 1 above, and further in view of U.S. Patent Number 6,154,113 to Murai.

Honma in view of Godawski disclose the claimed invention except for the use of a case and a resin disposed therein.

Murai discloses a transformer having separate winding locations for primary and secondary windings. The transformer is accommodated within a case body. If desired, the case body may be filled with a resin. The transformer is fitted with a cover and accommodated within the case body.

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Of course, the transformer having no cover fitted therewith can also be accommodated in the case body and embedded within the resin that has been filled therein. (Column 6, lines 19-38).

One skilled in the art at the time the invention was made, would have found it obvious to combine the teachings of Honma, Godawski, and Murai and incorporate a case for enclosing the transformer (column 6, lines 31-62) and to incorporate a resin for further enhancing the insulation of the primary coil and the secondary coil from the outside (column 6, lines 16-18).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Poker whose telephone number is 703-305-4037. The examiner can normally be reached on 5:30-4:00 Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on 703-308-7619. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jap
February 2, 2004

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